



Office of the Secretary of Defense

Range Sustainment: Assessing Training Encroachment and Capabilities in a Changing World

Briefing to the E2S2 Conference

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Frank DiGiovanni
Deputy Director, Readiness
and Training Policy, and
Programs
Office of the Deputy Under
Secretary of Defense
(Readiness)

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Overview

➤ ***Strategic Trends / Pressures***

- Training Requirements and Range/Airspace Implications
- Assessing the Adequacy of Our Ranges
- Future Directions and Closing Thoughts



Strategic Trends/Pressures

- Base Realignment and Closure (BRAC)
 - Post-BRAC decision environment—Joint Bases
- Global Repositioning
 - Base Closings
 - —Deployment” Training Concept
- Grow the Force
 - Army end strength increase 74,000 by 2013
 - Marine Corps end strength increase 27,000 by 2011
- Operational Realities
 - Pre-Deployment training
 - Post War —redeployment”



“The Perfect Storm is coming”

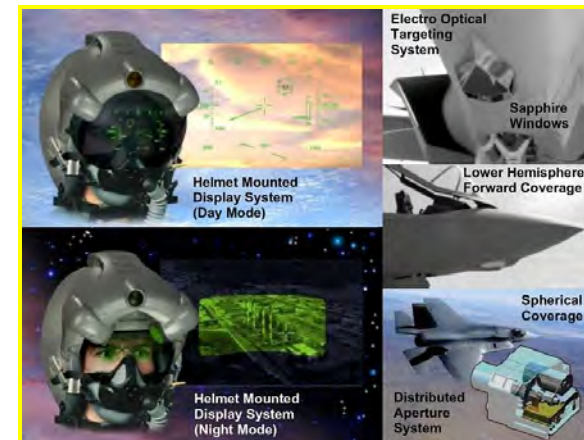




Strategic Trends/Pressures

- New Technologies

- Greater tactical mobility and range
- Manned and Unmanned Aircraft Systems
- Directed Energy
- Net-enabled Operations
- Supersonic/hypersonic
- Longer Range Weapons
- Low Observable Technology
- Automated ID and Targeting Systems
- Cyber warfare
- Robotics





Strategic Trends/Pressures

- Environmental
 - Climate Change
 - Carbon Emissions
 - Waxman-Markey Energy and Security Act of 2009
 - Alternative Energy
 - —“Green” Ranges
 - Marine Mammals
 - Water



- Social and Economic
 - Population growth and development
 - Resource contention, multiple-use pressures, litigation
 - New National policy dynamics (renewable energy, carbon cap and trade, etc.)



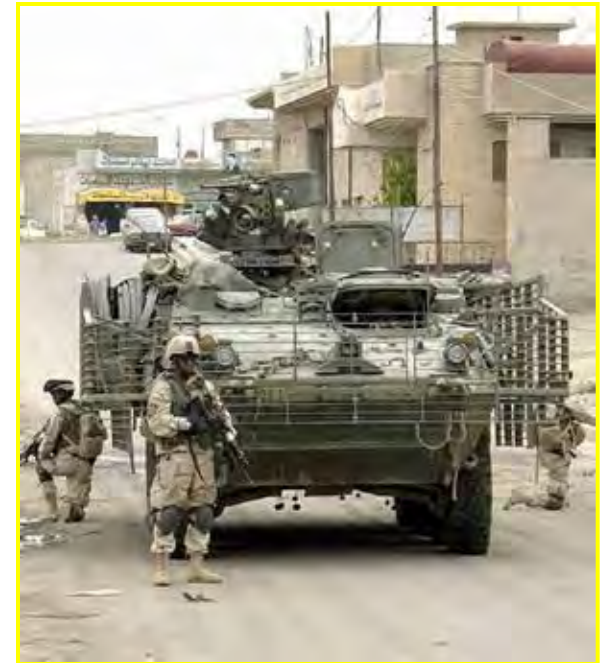
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Ground Live Training Requirements

- Need large, doctrinally-sound ranges/ OPAREAs to support Army Campaign Plan & National Military Strategy
 - Systems require more maneuver space
 - BCT-size training elements
- Soldiers practice skills in environment that replicates in real-time and real-distance the realistic, live-training challenges of combat



Army FCS BCT Area of Operations





Sea and Subsurface Training Requirements

Training Space

- Growing emphasis on littoral combat
 - Green and brown water training growth; e.g. close to shore and river training
 - Amphibious assault
 - Undersea warfare range upgrades
- Since Vieques, have developed more flexible and non-place specific training capabilities
 - Deployable target and scoring systems
 - More training occurs at sea
 - Often combined with transits to theaters of operations
- Sonar remains a vital capability
- Challenges:
 - Energy development offshore
 - Endangered species and marine mammals
 - Coastal development





Air Training Requirements

Training Space

- Less and less of a requirement for —“backyard” ground ranges. . . but more pressure on airspace use and live/virtual training capability integration
 - Long Range Weapons
 - —“Warm, cluttered” Targets
 - No drop training / virtual scoring
 - Unmanned Aircraft Systems
 - Supersonic/hypersonic
 - Directed Energy
 - Less low level flight
 - Hybrid warfare
- Challenges
 - Frequency Spectrum Contention
 - Civil and Military Airspace Deconfliction
 - Development under Around Airfields
 - Noise and Air Quality issues
 - Longer Range Weapons
 - Realistic Urban Terrain Training



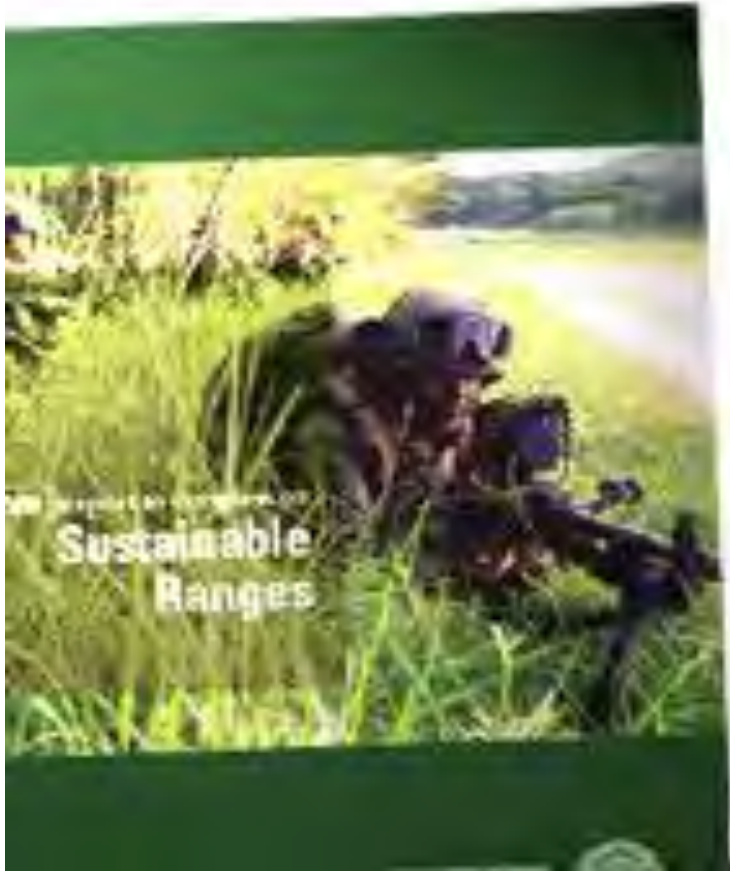


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Sustainable Ranges Report



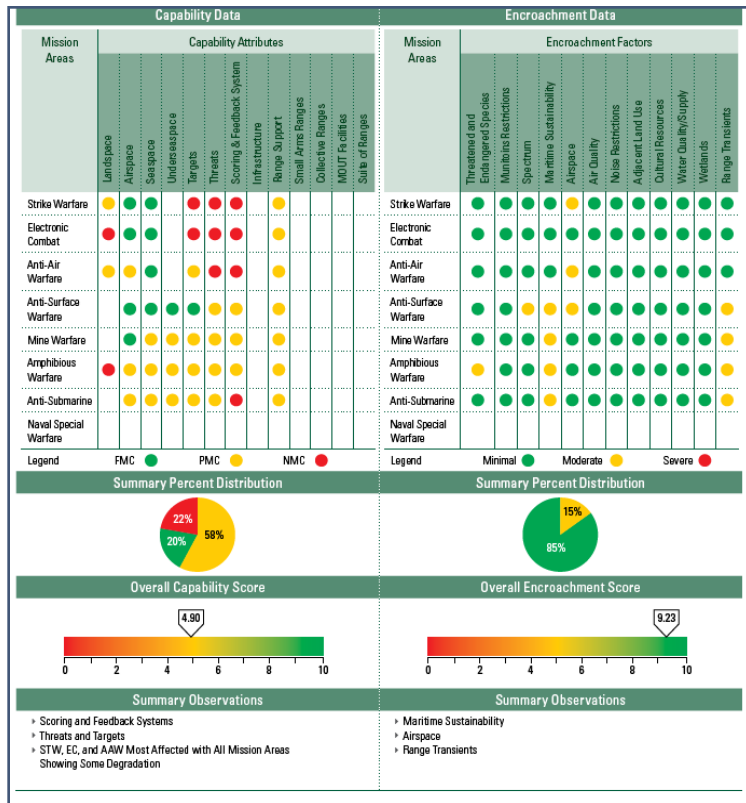
- Submitted Annually to Congress since 2004
- SRR contains:
 - Comprehensive plan to sustain training ranges
 - Service Range Inventories
 - Assessment of training range capabilities and encroachment concerns
- Evolving assessments provide a means to track and evaluate progress in addressing challenges and shortfalls



Range Capability and Encroachment Assessments

NDAAs for FY2003 and FY2004 required assessment of range capabilities and encroachment factors

- Utilized standardized set of 13 capability attributes and 12 encroachment factors
- Assessed against each Service's unique mission areas



- Leveraged existing Service assessment tools
- Used both subjective and objective criteria
- Provides —snapshot in time”
- Provides common, consistent evaluation method that can be used to measure progress and identify trends over time
- Serves as basis for DRRS Range Tab

Assessments are based entirely on Service Inputs



Capability & Encroachment Assessment Framework

Common capability attributes and encroachment factors, combined with a standard evaluation criteria provide for consistent assessment and analysis across Service unique mission areas.

Encroachment Factors

- Threatened & Endangered Species/ Critical Habitat
- Munitions Restrictions
- Spectrum
- Maritime Sustainability
- Airspace
- Air Quality
- Noise Restrictions
- Adjacent Land Use
- Cultural Resources
- Water Quality/Supply
- Wetlands
- Range Transients

**COMMON
ACROSS
SERVICES**

Capability Attributes

- Land Space
- Airspace
- Sea Space
- Undersea Space
- Targets
- Threats
- Scoring & Feedback Systems
- Infrastructure
- Range Support
- Small Arms Ranges
- Collective Ranges
- MOUT Facilities
- Suite of Ranges

Army

USMC

USN

USAF

Service Unique Mission Areas



Sustainable Ranges Report

Mandatory Comments for Yellow & Red Assessments

- What's the shortfall
- How's it impacting training
- What's being done to remedy the situation

Mission Areas	Encroachment Factors										
	Threatened & Endangered Species/Critical Habitat	Munitions Restrictions	Spectrum	Maritime Sustainability	Airspace	Air Quality	Noise Restrictions	Adjacent Land Use	Cultural Resources	Water Quality/Supply	Wetlands
Mission Area #1											
Mission Area #2											
Mission Area #3											
Mission Area #4											

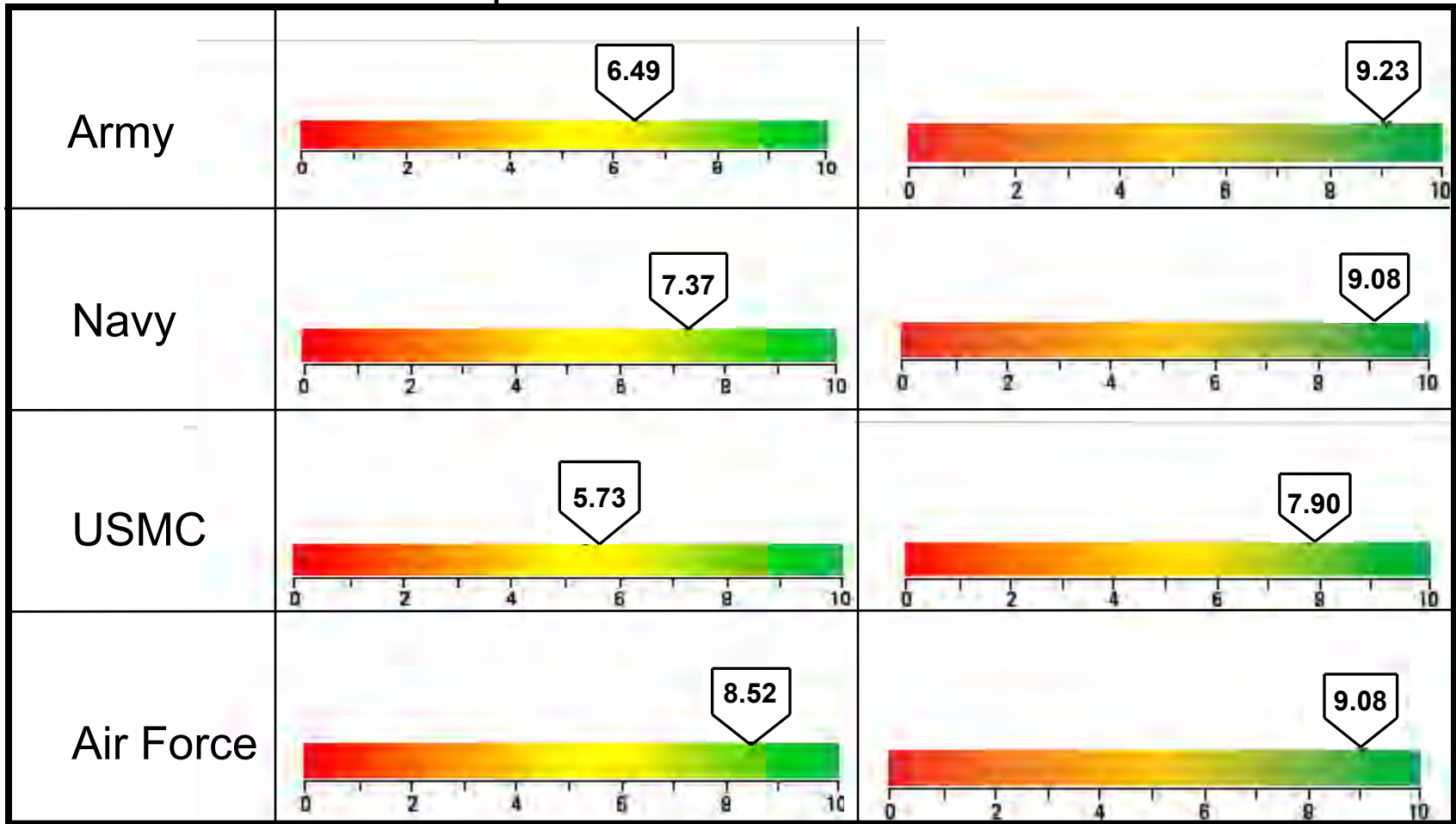
Encroachment Factors	Assigned Training Mission	Color	Mandatory Comments for Red and Yellow Assessments
Threatened & Endangered Species/Critical Habitat	Mission Area #2		Range closed to activity associated with Mission Area #2, April - June annually due to Bighorn sheep breeding season. Unit is working with the F&WS to increase local population above target threshold level in order to resume activity during breeding season.
	Mission Area #4		Range closed to activity associated with Mission Area #4, April - June annually due to Bighorn sheep breeding season. Unit is working with the F&WS to increase local population above target threshold level in order to resume activity during breeding
Airspace	Mission Area #1		Approach pattern to local airport caps restricted area over range at FL200 limiting full weapon envelope training. Working with center to reroute approach pattern.
Noise Restrictions	Mission Area #4		Continued complaints from neighbors has resulted in curtailment of artillery fire between 2200 - 0600. Working to relocate artillery firing area to opposite side of the range.
Adjacent Land Use	Mission Area #3		There is no night vision training due to light pollution from surrounding communities.
	Mission Area #4		There is no night vision training due to light pollution from surrounding communities.



2008 Assessment Summaries

Capabilities

Encroachment





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Sustainable Ranges Focus Areas

- Deputy Secretary Validated Seven Sustainable Ranges IPT Thrusts:
 - Mitigate Competing Land and Seaspaces Uses
 - Address Frequency Spectrum Competition
 - Meet Military Airspace Challenges
 - Manage Increasing Military Demand for Range Space
 - Address Energy Infrastructure Impacts
 - Anticipate Climate Change Initiatives
 - Prepare for Increased Environmental Emphasis

DoD, States, Other Federal Agencies and Private Landowners Face Many Common Challenges And Must Meet the Future Together



Energy Infrastructure Compatibility

The DoD Energy issue has two major facets:

- 1. Energy production/consumption/distribution within DoD**
- 2. Energy infrastructure compatibility with military readiness activities; testing, training, and operations**

Specific Energy Infrastructure Compatibility challenges include:

- Renewable Energy: Wind, geothermal, tidal, wave and solar energy project siting, etc.
- Outer Continental Shelf: Oil & gas moratoria, alternative energy planning, LNG transshipment sites & compressor platforms
- Energy Transmission Corridors
- Other Emerging Energy Issues: e.g., nuclear power, oil shale



In addition to energy projects “outside the fence,” there is potential for DoD self-induced energy encroachment

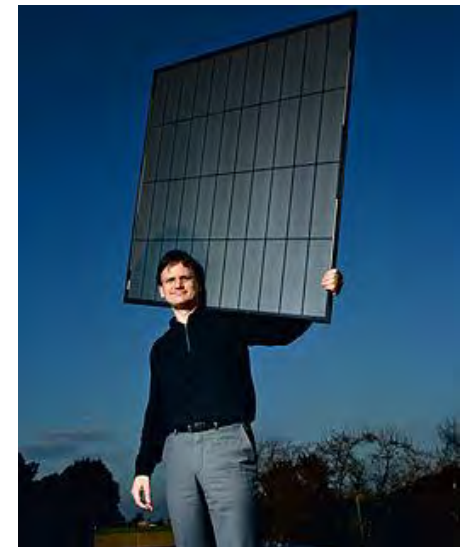
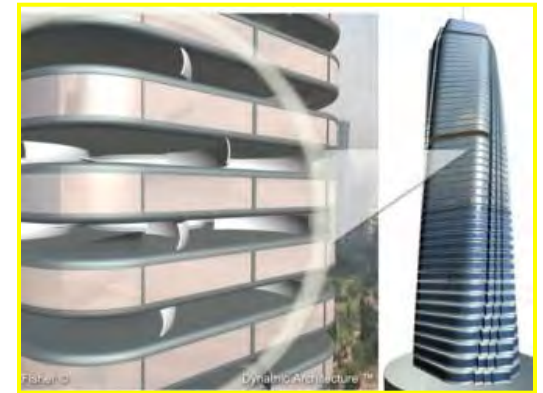


New Technologies - Food for Thought

This



Or This





2009 SMR Conference Website

2009 SUSTAINING MILITARY READINESS CONFERENCE

BUILDING PARTNERSHIPS TO SUSTAIN OUR FUTURE

[HOME](#) | [AGENDA](#) | [REGISTRATION](#) | [FIELD TRIPS](#) | [HOTEL & TRANSPORTATION](#)

WELCOME!

The 2009 Sustaining Military Readiness Conference will be held from **Sunday, August 9th through Friday, August 14th** at the Sheraton Phoenix Downtown Hotel in Phoenix, Arizona.

DoD personnel and stakeholders in Readiness, Sustainability, Compatible Land Use, and Conservation Management are invited to join the DoD Legacy Resource Management Program, the Basing Directorate, the Directorate of Readiness and Training, Policy, and Programs, the Test Resource Management Center, the Office of the Director, Operational Test and Evaluation, and the Strategic Environmental Research and Development Program to:

- Exchange lessons learned from the public and private sectors!
- Share results of sustainability programs and projects!
- Participate in a broad spectrum of informative training workshops!

Organizations interested in exhibiting a booth or poster at the 2009 Sustaining Military Readiness Conference may click [HERE](#) for more information.

NEWS

Tuesday, April 21: Registration is now open!

To receive updates, please submit your email address in the entry field.

Airman operates the onboard sensor of an MQ-1 Predator unmanned aerial vehicle before take off. Photo courtesy U.S. Air Force, Staff Sgt. Don Branum.

QUESTIONS? COMMENTS? Please contact Mary Gabriel at (703) 920-7070 ext. 272 or conference@dandp.com
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www.smrconference.com



Closing Thoughts

- **Strategic Trends and Pressures**
 - The “Perfect Storm”
 - New technologies
 - Environmental, social and economic
- **Constrained fiscal environment**
- **Increased environmental oversight**
- **Climate change initiatives**
- **Renewable energy infrastructure**
- **Public and those with competing demands may become less tolerant in future**
- **Moving toward virtual capabilities augmenting and relieving pressure on live resources**
- **Outreach and education**